REMARKS

Please reconsider the claims in the application in view of the remarks below.

Claim Objection

The Office Action objected to claims 5-11 because those claims did not immediately follow the dependent claim, from which they in turn depend. While applicant notes the objection, the numbering as originally claimed will be maintained since applicant cannot renumber the claims at this stage of the proceedings.

Claim Rejection – 35 U.S.C. §112, second paragraph

The Office Action rejected claims 23 and 31 under 35 U.S.C. §112, second paragraph for lack of antecedent basis. The Office Action alleges that, "a checksum was never defined as part of a data blocks data structure in the tree." Without conceding to the propriety of the rejection, those claims are being amended to recite "integrity value." The recited integrity value may be a checksum value.

Claim Rejection – 35 U.S.C. §102(b)

The Office Action rejected claims 1, 2, 12-15, 25 and 26 under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent No. 6,405,315 ("Burns"). Of the pending claims, claims 1, 14 and 25 are independent. Without conceding to the propriety of the rejections (and reserving the right to continue to separately prosecute the claims as originally filed in a continuation application), applicant in this reply is amending independent claim 1 to recite elements previously recited in dependent claims 5, 6 and 9 and also adding that "root data

continuation application), applicant in this reply is amending independent claim 1 to recite elements previously recited in dependent claims 5, 6 and 9 and also adding that "root data structure is stored on the client device." Similar amendments are being made to independent claims 14 and 25. Support for the amendments can be found at least in paragraph 0016 of the originally filed specification.

Burns does not disclose or suggest every element claimed in independent claims as amended. For instance, Burns fails to disclose or suggest at least an "integrity tree" that comprises "a hierarchical data structure... a top layer of said hierarchical data structure" including "a root data structure for protecting integrity of all content written to said storage device ... the root data structure stored on the client device." While Burns as understood by applicant includes hash values in directory objects and stores the directory objects on the network-attached storage device, Burns does not disclose or suggest a root of the integrity tree that is kept on the client device.

In the present application as claimed in independent claims, a customer keeps the root on his computer. Since the root of the integrity tree resides in the customer computer, no one (or process) can tamper with the contents of the network-attached storage device without being detected. Since the customer keeps the root of the integrity tree, he can determine whether a change has occurred, e.g., whether his data has been tampered with.

In addition, while Burns discloses a hash value for each of his files, Burns does not disclose or suggest to store integrity values of a tree structure comprising layers of integrity values that protect the integrity of the initial layer of integrity values or a root that stays on the customer computer to protect all the data sent to the storage system.

Having a hierarchical structure of integrity values allow protecting integrity of all content written to storage device. Burns as understood by application appears to disclose a hash value for each file. It appears in Burns that if one deletes one of the directory objects, the corresponding file's data objects can also be removed. On the other hand, in the present application as recited in the independent claims, since the root of the tree is kept on the client device and the root of the tree protects all the data that was sent to the storage system, none of that data in the storage system can be modified in such a way as to escape detection.

For at least the above reasons, applicant believes Burns does not anticipate independent claims 1, 14 and 25 and their respective dependent claims at least by virtue of dependency.
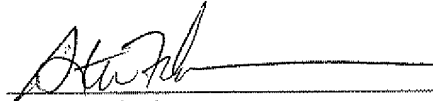

Claim Rejection – 35 U.S.C. §103(a)

The Office Action rejected claims 3, 5-11, 16, 18-24 and 27-32 under 35 U.S.C. §103(a) as allegedly being unpatentable over Burns in view of U.S. Patent No. 6,931,543 ("Pang"), further in view of U.S. Patent No 5,124,117 ("Tatebayashi"). Claims 4-7 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Burns in view of U.S. Patent No. 5,608,801 ("Aiello"). Because those references fail to disclose or suggest what Burns lacks as explained above with respect to independent claims, claims 3, 4-7, 5-11, 16, 18-24 and 27-32, are believed to be unobvious over the cited references.

New claim 33 being added. Support for the new claim is found in Figures 1 and 2 and pages 3-5 of the specification and the claims as originally filed. In view of the foregoing, this application is now believed to be in condition for allowance, and a Notice of Allowance is respectfully requested. If the Examiner believes a telephone conference might expedite

prosecution of this case, applicant respectfully requests that the Examiner call applicant's attorney at (516) 742-4343.

Respectfully submitted,

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